	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L1	1825	(insulin-like adj growth adj factor-1) or IGF-I	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/05/24 08:50			0
2	BRS	L2	222	1 same analog	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/05/24 08:50			0
3	BRS	L3	332	composition same ((insulin-like adj growth adj factor-1) or IGF-I)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/05/24 08:51			0
4	BRS	L4	10	(composition same ((insulin-like adj growth adj factor-1) or IGF-I)) same (arginine or guanidinium or guanidine)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/05/24 08:52			0
5	BRS	L5	2	(composition same ((insulin-like adj growth adj factor-1) or IGF-I)) same solubilizing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/05/24 08:56			0

=> d his

(FILE 'HOME' ENTERED AT 08:59:33 ON 24 MAY 2002)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
09:00:10 ON 24 MAY 2002
L1 79728 S (INSULIN-LIKE GROWTH FACTOR-I) OR IGF-I
L2 2175 S L1 (P) ANALOG
L3 2750 S COMPOSITION (P) L1
L4 102 S L3 (P) (ARGININE OR GUANIDINE OR GUANIDIUM)
L5 2 S L4 (P) SOLUBIL?
L6 2 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)
L7 32 DUPLICATE REMOVE L4 (70 DUPLICATES REMOVED)
L8 3 S L7 (P) PH
L9 2 S L8 NOT L6
L10 28 S L7 NOT (L9 OR L5)

=> log y
COST IN U.S. DOLLARS

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FILE 'HOME' ENTERED AT 08:59:33 ON 24 MAY 2002

=> file medline caplus biosis embase scisearch agricola
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.21       0.21

FILE 'MEDLINE' ENTERED AT 09:00:10 ON 24 MAY 2002

FILE 'CAPLUS' ENTERED AT 09:00:10 ON 24 MAY 2002
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FILE 'AGRICOLA' ENTERED AT 09:00:10 ON 24 MAY 2002

=> s (insulin-like growth factor-I) or IGF-I
L1       79728 (INSULIN-LIKE GROWTH FACTOR-I) OR IGF-I

=> s l1 (p) analog
L2        2175 L1 (P) ANALOG

=> s composition (p) l1
L3        2750 COMPOSITION (P) L1

=> s l3 (p) (arginine or guanidine or guanidium)
L4         102 L3 (P) (ARGININE OR GUANIDINE OR GUANIDIUM)

=> s l4 (p) solubil?
L5           2 L4 (P) SOLUBIL?

=> duplicate remove l5
PROCESSING COMPLETED FOR L5
L6           2 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)

=> d l6 1-2 ibib abs

L6   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         1999:325815  CAPLUS
DOCUMENT NUMBER:          130:343031
TITLE:                    Compositions providing for increased IGF-I solubility
INVENTOR(S):              Shirley, Bret A.; Bajwa, Kamaljit
PATENT ASSIGNEE(S):       Chiron Corporation, USA
SOURCE:                   PCT Int. Appl., 32 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   3
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 9924063         A1   19990520       WO 1998-US23673  19981106
         W:  AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
             CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU,
             ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
             MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
             SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
             FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
             CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
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AU 9915193 A1 19990531 AU 1999-15193 19981106
EP 1028748 A1 20000[redacted] EP 1998-959383 199811[redacted]
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2001522814 T2 20011120 JP 2000-520151 19981106
PRIORITY APPLN. INFO.: US 1997-64891P P 19971107
WO 1998-US23673 W 19981106
AB ***IGF*** - ***I*** ***compns*** . include a ***solubilizing*** compd. comprising a guanidinium group that provides for ***IGF*** - ***I*** ***compns*** . in which ***IGF*** - ***I*** is highly sol. at pHs of about 5.5 or greater and at refrigerated temps. ***IGF*** - ***I*** was formulated with ***arginine*** for injection.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:325814 CAPLUS
DOCUMENT NUMBER: 130:343030
TITLE: Human IGF-I syrup composition and its use
INVENTOR(S): Shirley, Bret A.; Hora, Maninder S.
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9924062	A1	19990520	WO 1998-US23672	19981106
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9913847	A1	19990531	AU 1999-13847	19981106
EP 1028747	A1	20000823	EP 1998-957637	19981106
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001522813	T2	20011120	JP 2000-520150	19981106

PRIORITY APPLN. INFO.: US 1997-64891P P 19971107
US 1998-96081P P 19980811
WO 1998-US23672 W 19981106
AB A highly concd., low salt-contg., biol. active syrup form of IGF-I or variant thereof and methods for its prepn. are provided. This novel syrup form of IGF-I has an IGF-I concn. of at least about 250 mg/mL, a d. of about 1.0 g/mL to about 1.2 g/mL, and a viscosity of about 13,000 cP (cps) to about 19,000 cps, as measured at ambient temp. (23 .degree.C). The IGF-I syrup is prepd. by pptg. or partitioning IGF-I from soln., preferably by adjusting the soln. pH or by use of a soly. enhancer to conc. IGF-I in soln. followed by removal of the soly. enhancer. The pptd. syrup is useful as a means of storing IGF-I in a stable form and as a means of prepg. compns. comprising biol. active IGF-I. Pharmaceutical compns. and kits comprising this concd. IGF-I syrup are provided. The pptd. IGF-I syrup, IGF-I reconstituted from the IGF-I syrup, pharmaceutical compns., and kits are useful in IGF-I therapy directed to IGF-I-responsive conditions.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 08:59:33 ON 24 MAY 2002)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT

09:00:10 ON 24 MAY 2002
L1 79728 S (INSULIN-LIKE G[redacted]TH FACTOR-I) OR IGF-I
L2 2175 S L1 (P) ANALOG
L3 2750 S COMPOSITION (P) L1
L4 102 S L3 (P) (ARGININE OR GUANIDINE OR GUANIDIUM)
L5 2 S L4 (P) SOLUBIL?
L6 2 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)

=> duplicate remove l4
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L4
L7 32 DUPLICATE REMOVE L4 (70 DUPLICATES REMOVED)

=> s l7 (p) pH
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L44 (P) PH'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L46 (P) PH'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L48 (P) PH'
L8 3 L7 (P) PH

=> s l8 not l6
L9 2 L8 NOT L6

=> d l9 1-2 ibib abs

L9 ANSWER 1 OF 2 MEDLINE
ACCESSION NUMBER: 90372125 MEDLINE
DOCUMENT NUMBER: 90372125 PubMed ID: 2396498
TITLE: Quantitation of growth factors IGF-I, SGF/IGF-II, and TGF-beta in human dentin.
AUTHOR: Finkelman R D; Mohan S; Jennings J C; Taylor A K; Jepsen S; Baylink D J
CORPORATE SOURCE: Department of Periodontics, Loma Linda University, CA.
CONTRACT NUMBER: AR 31062 (NIAMS)
SOURCE: JOURNAL OF BONE AND MINERAL RESEARCH, (1990 Jul) 5 (7) 717-23.
Journal code: 130; 8610640. ISSN: 0884-0431.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199010
ENTRY DATE: Entered STN: 19901109
Last Updated on STN: 19901109
Entered Medline: 19901010

AB Human bone matrix is known to contain a battery of polypeptide growth factors. Since dentin is a mineralized tissue similar to bone in ***composition*** and perhaps in formation, human dentin was assayed for the presence of similar growth factors. Root dentin proteins were extracted by demineralization in 4 M ***guanidine*** hydrochloride (Gu) and 30 mM Tris (***pH*** 7.4) containing 20% EDTA and proteinase inhibitors. Gu-EDTA extracts were desalted and used for the following assays: (1) bone cell proliferation in chick calvarial cell mitogenic assay using the incorporation of [3H]thymidine into TCA-insoluble material; (2) osteocalcin by radioimmunoassay (RIA); (3) ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) by RIA; (4) skeletal growth factor/insulinlike growth factor II (SGF/IGF-II) by radioreceptor assay; and (5) transforming growth factor beta (TGF-beta) by bioassay. Gu-EDTA extracts stimulated bone cell proliferation. At 10 micrograms/ml, dentin proteins increased the incorporation of [3H]thymidine by calvarial cells to 320% of that by BSA-treated control cells. Consistent with the presence of mitogenic activity, growth factors were found in dentin in the following concentrations (ng/micrograms Gu-EDTA protein): (1) ***IGF*** - ***I*** , 0.06; (2) SGF/IGF-II, 0.52; and (3) TGF-beta, 0.017. All three growth factors were present in concentrations lower than that found in human bone. Osteocalcin was detected at a concentration of 3.0 mg/g Gu-EDTA protein, also much lower than that in bone.

L9 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:401[redacted] CAPLUS
DOCUMENT NUMBER: 121:1442
TITLE: Blunted growth hormone response to intravenous arginine in subjects with a spinal cord injury
AUTHOR(S): Bauman, W. A.; Spungen, Ann M.; Flanagan, S.; Zhong, Y.-G.; Alexander, L. R.; Tsitouras, P. D.
CORPORATE SOURCE: Spinal Cord Damage Res. Cent., Mount Sinai Med. Cent., New York, NY, USA
SOURCE: Horm. Metab. Res. (1994), 26(3), 152-6
CODEN: HMMRA2; ISSN: 0018-5043
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The influence of the activities of daily living on human growth hormone (hGH) release and plasma insulin-like growth factor (***IGF*** - ***I***) levels is not known. Individuals with spinal cord injury (SCI) and paralysis generally have reduced levels of activity compared with ambulatory subjects. The authors studied 16 subjects with SCI and 16 nonSCI subjects matched for age, gender and body mass index (BMI) as controls. After an i.v. infusion of ***arginine*** hydrochloride (30 g/subject over 30 min), mean plasma hGH values at 30 and 60 min were significantly lower in the group with SCI compared with the control group (3.4 vs. 10.7 ng/mL, ***ph*** < 0.01; and 5.2 vs. 12.5 ng/mL). Also, peak and sum hGH responses were significantly lower in the group with SCI than in the control group (5.8 vs. 14.1 ng/mL,; and 15.2 vs. 34.8 ng/mL). Controlling for age and BMI, the results remained significant. However, the mean plasma ***IGF*** - ***I*** level was significantly lower in SCI subjects younger than 45 yr old than in the similar subgroup of age-restricted controls (202 vs. 324 ng/mL), whereas, a comparison of subgroups of subjects 45 yr or older did not reveal a significant difference. These findings support the hypothesis that decreased daily phys. activity results in depression of the hGH/ ***IGF*** - ***I*** axis in younger individuals with SCI and may be considered to be a state of premature aging. The consequences of a relative hGH deficiency may contribute to the adverse body ***compn*** . changes which accompany the paralysis and immobilization of SCI.

=> d his

(FILE 'HOME' ENTERED AT 08:59:33 ON 24 MAY 2002)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 09:00:10 ON 24 MAY 2002
L1 79728 S (INSULIN-LIKE GROWTH FACTOR-I) OR IGF-I
L2 2175 S L1 (P) ANALOG
L3 2750 S COMPOSITION (P) L1
L4 102 S L3 (P) (ARGININE OR GUANIDINE OR GUANIDIUM)
L5 2 S L4 (P) SOLUBIL?
L6 2 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)
L7 32 DUPLICATE REMOVE L4 (70 DUPLICATES REMOVED)
L8 3 S L7 (P) PH
L9 2 S L8 NOT L6

=> s l7 not (l9 or l5)
L10 28 L7 NOT (L9 OR L5)

=> d l10 1-28 ibib abs

L10 ANSWER 1 OF 28 MEDLINE
ACCESSION NUMBER: 2002227357 IN-PROCESS
DOCUMENT NUMBER: 21959959 PubMed ID: 11964018
TITLE: Growth hormone deficiency in the transition adolescent: should treatment be continued in adult life?.
AUTHOR: Aimaretti G; Corneli G; Bellone S; Baffoni C; Camanni F; Ghigo E
CORPORATE SOURCE: Department of Internal Medicine, University of Turin, Italy.
SOURCE: JOURNAL OF PEDIATRIC ENDOCRINOLOGY AND METABOLISM, (2001) 14 Suppl 5 1233-42; discussion 1261-2.
Journal code: 9508900.
PUB. COUNTRY: England: United Kingdom

Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20020420
Last Updated on STN: 20020420

AB Adults with growth hormone (GH) deficiency (GHD) have impaired health, which improves with GH replacement. GHD in adulthood leads to impairment in body ***composition*** and structure functions as well as to deranged lipoprotein and carbohydrate metabolism leading to increased cardiovascular morbidity. Therefore the transition adolescent in whom severe GHD is confirmed has to continue GH replacement with an appropriate age-related dosage. All short children who have been treated with rhGH for classical and non-classical GHD should be suspected as potentially GHD in adulthood though only in classical organic and idiopathic forms is severe GHD likely to be confirmed. GHD must be shown biochemically by single provocative testing. Insulin-induced hypoglycemia (ITT) and GHRH + ***arginine*** are the tests of choice provided that appropriate cutoff limits are assumed; these tests show good specificity and sensitivity. Testing with GHRH + GH secretagogues is another reliable alternative. Low ***IGF*** - ***I*** levels can be definitive evidence of persistent severe GHD in patients with genetic GHD or panhypopituitarism, but normal ***IGF*** - ***I*** levels do not rule out severe GHD. Individual titration of the rhGH dose is recommended and measurement of ***IGF*** - ***I*** levels is needed for monitoring the adequacy of replacement. The mean GH dose for replacement in the transition adolescent, however, is still higher than in adulthood; after puberty the rhGH dose should be progressively decreased in the following years (probably up to 25 years old) in order to obtain optimal peak bone mass.

L10 ANSWER 2 OF 28 MEDLINE
ACCESSION NUMBER: 2002111871 MEDLINE
DOCUMENT NUMBER: 21826561 PubMed ID: 11836324
TITLE: Differential effects of GH replacement on the components of the leptin system in GH-deficient individuals.
AUTHOR: Randeva Harpal S; Murray Robert D; Lewandowski Krzysztof C; O'Callaghan Chris J; Horn Rudiger; O'Hare Paul; Brabant Georg; Hillhouse Edward W; Shalet Stephen M
CORPORATE SOURCE: Sir Quinton Hazel Molecular Medicine Research Center, Biological Sciences, University of Warwick, Coventry, United Kingdom CV4 7AL.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (2002 Feb) 87 (2) 798-804.
Journal code: 0375362. ISSN: 0021-972X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200203
ENTRY DATE: Entered STN: 20020215
Last Updated on STN: 20020302
Entered Medline: 20020301

AB GH therapy is associated with a reduction in fat mass and an increase in lean mass in subjects with GH deficiency (GHD). Leptin, like GH, plays an important role in the regulation of body ***composition*** . GH treatment has been shown to reduce serum leptin; however, the physiological interactions between the leptin system (free leptin, bound leptin, and soluble leptin receptor) and the GH/ ***IGF*** - ***I*** system largely remain unknown. Twenty-five patients with childhood (n = 10) and adult-onset (n = 15) GHD were studied. GH status had previously been determined using an insulin tolerance test and/or an ***arginine*** stimulation test. The following parameters were recorded at baseline (V1) and then after 3 months (V2) and 6 months (V3) on GH treatment: fat mass, body mass index (BMI), and waist/hip ratio (WHR); blood samples were taken after an overnight fast for free leptin, bound leptin, soluble leptin receptor, insulin, and ***IGF*** - ***I*** . At V2 and V3, respectively, a fall in free leptin ($P < 0.001$ for each), and at V3 a fall in in percent fat mass ($P < 0.001$) were observed. There were no significant changes in BMI or WHR. Simultaneously, there was a rise in insulin ($P = 0.068$ and $P < 0.001$), ***IGF*** - ***I*** ($P < 0.001$ and $P < 0.001$), bound leptin ($P = 0.005$ and $P < 0.001$), and soluble leptin receptor ($P = 0.61$ and $P < 0.001$). A positive relationship was noted between free leptin and BMI ($P < 0.001$) and between free leptin and fat

mass (P < 0.001), and a negative relationship was found between free leptin and ***IGF*** - ***I*** (P < 0.001) and, within [redacted]ient, between free leptin and insulin (P < 0.001). There was no significant correlation between free leptin and WHR. Bound leptin had a positive association with ***IGF*** - ***I*** (P < 0.001) and insulin (P = 0.002) and a negative relationship with percent fat mass (P = 0.023). Soluble leptin receptor was also positively related to ***IGF*** - ***I*** (P < 0.001). In conclusion, our data suggest that the reduction in serum leptin with GH treatment, as noted by others, is mediated through a fall in free leptin. The fall in free leptin and in part the rise in bound leptin are most likely through a reduction in percent fat mass. However, the observed changes in free leptin and bound leptin and, more importantly, the rise in soluble leptin receptor, are not explained entirely by modifications in body ***composition*** and may be a direct result of GH/ ***IGF*** - ***I*** .

L10 ANSWER 3 OF 28 MEDLINE
ACCESSION NUMBER: 2001055929 MEDLINE
DOCUMENT NUMBER: 20533656 PubMed ID: 11081184
TITLE: Growth hormone deficiency in elderly patients with hypothalamo-pituitary tumors.
AUTHOR: Colao A; Cerbone G; Pivonello R; Klain M; Aimaretti G; Faggiano A; Di Somma C; Salvatore M; Lombardi G
CORPORATE SOURCE: Department of Molecular and Clinical Endocrinology, Federico II University, Naples, Italy.
SOURCE: PITUITARY, (1998 Apr) 1 (1) 59-67.
Journal code: DSI. ISSN: 1386-341X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200012
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001219

AB In 18 patients with hypothalamo-pituitary diseases aged over 60 years and in 18 sex, age- and BMI-matched healthy subjects, the results of plasma ***IGF*** - ***I*** and IGF-BP3 levels and the GH response to GHRH + ***arginine*** test (GHRH + ATT) were correlated to the results of body ***composition*** , serum osteocalcin (OC) and urinary cross-linked N-telopeptides of type I collagen (Ntx) and the bone mineral density (BMD). In 10 patients and 10 controls, the GH response to ITT was also evaluated. The GH response to GHRH + ATT and ITT was markedly reduced in patients compared to controls (3.1 +/- 0.7 vs. 23.2 +/- 2.3 micrograms/L, P < 0.001 and 1.1 +/- 0.3 vs. 6.4 +/- 0.8 micrograms/L, P < 0.001), so all patients were classified as GHD, though no significant difference was found in plasma ***IGF*** - ***I*** and IGF-BP3 levels between the two groups. Body ***composition*** analysis revealed a significant increase of fat mass (37.4 +/- 2.2 vs. 28.0 +/- 1.0%, P < 0.001), a significant decrease of lean mass (62.6 +/- 2.2 vs. 72.0 +/- 1.0%, P < 0.001) and total body water (45.7 +/- 1.5 vs. 52.5 +/- 1.1%, P < 0.001) in patients compared to controls. Serum OC levels were lower (1.9 +/- 0.1 vs. 4.6 +/- 0.4 micrograms/L, P < 0.001) in patients than in controls, whereas urinary Ntx levels were similar. BMD values in lumbar spine (0.81 +/- 0.02 vs. 0.90 +/- 0.02 g/cm2, P < 0.001) and femoral neck (0.70 +/- 0.02 vs. 0.82 +/- 0.02 g/cm2, P < 0.001) were significantly lower in patients than in controls. A significant inverse correlation was found between GHD duration and lumbar spine (r = -0.73, P&1t; 0.001) or femoral neck (r = -0.81, P&1t; 0.001) BMD values and a significant direct correlation was found between GH peak after GHRH + ATT and lumbar BMD (r = 0.69, p = 0.001) in GHD patients. In conclusion, GHD in patients over 60 yrs aged with a characteristic history of hypothalamus-pituitary pathology is distinct from the physiological decline in GH secretion associated with aging.

L10 ANSWER 4 OF 28 MEDLINE
ACCESSION NUMBER: 2001049552 MEDLINE
DOCUMENT NUMBER: 20544549 PubMed ID: 11095440
TITLE: Growth hormone replacement therapy improves body composition and increases bone metabolism in elderly patients with pituitary disease.
AUTHOR: Fernholm R; Bramnert M; Hagg E; Hilding A; Baylink D J;

Mohan S; Thoren M
CORPORATE SOURCE: Department of [redacted]ndocrinology and Diabetology, K[redacted]linska Hospital, Stockholm, Sweden.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (2000 Nov) 85 (11) 4104-12.
Journal code: HRB. ISSN: 0021-972X.
PUB. COUNTRY: United States
(CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(MULTICENTER STUDY)
(RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200012
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001214

AB Although a specific GH deficiency (GHD) syndrome in the adult and the response to GH replacement therapy are well recognized, there are few data available on the effect of GH replacement therapy in elderly GH-deficient patients. We studied the effect of GH therapy on body ***composition*** and bone mineral density measured by dual energy x-ray absorptiometry, markers for bone metabolism, insulin-like growth factors (IGFs), and IGF-binding proteins (IGFBPs) in 31 patients (6 women and 25 men; aged 60-79 yr; mean, 68 yr) with multiple pituitary hormone deficiencies. The GH response to ***arginine*** or insulin was below 3 microg/L (9 mU/L) in all subjects. They were randomized to GH (Humatrope, Eli Lilly & Co.) or placebo for 6 months, followed by 12 months of open treatment. The dose was 0.05 IU/kg x week for 1 month, and after that it was 0.1 IU/kg x week divided into daily sc injections (0.75-1.25 IU/day). There were no changes in any of the measured variables during placebo treatment. GH treatment normalized serum ***IGF*** - ***I*** in a majority of the patients and increased IGFBP-3 and -5 as well as IGFBP-4 and IGF-II to values within normal range. Lean body mass was increased, and the increase at 6 and 12 months correlated with the increase in ***IGF*** - ***I*** (r = 0.46; P = 0.010 and r = 0.54, respectively; P = 0.003). GH treatment caused a modest, but highly significant, reduction of total body fat. Mean bone mineral density was not different from that in healthy subjects of the same age and did not change during the observation period. Markers for bone formation (bone-specific alkaline phosphatase activity, osteocalcin, and procollagen I carboxyl-terminal peptide in serum) increased within the normal range, and levels were sustained throughout the study. The bone resorption marker (pyridinoline in urine) was significantly elevated for 12 months. Side-effects were mild, mostly attributed to fluid retention. In two patients with normal glucose tolerance at the start of the study, pathological glucose tolerance occurred in one patient and was impaired in one. In conclusion, elderly patients with GHD respond to replacement therapy in a similar manner as younger subjects, with an improvement in body ***composition*** and an increase in markers for bone metabolism. Side-effects are few, and elderly GHD patients can be offered treatment. As long-term risks are unknown, GH doses should be titrated to keep ***IGF*** - ***I*** within the age-related physiological range.

L10 ANSWER 5 OF 28 MEDLINE
ACCESSION NUMBER: 2000426517 MEDLINE
DOCUMENT NUMBER: 20389911 PubMed ID: 10931086
TITLE: Characterization of pituitary function with emphasis on GH secretion in the chronic fatigue syndrome.
AUTHOR: Moorkens G; Berwaerts J; Wynants H; Abs R
CORPORATE SOURCE: Departments of Internal Medicine; Endocrinology, University Hospital Antwerp, Belgium.
SOURCE: CLINICAL ENDOCRINOLOGY, (2000 Jul) 53 (1) 99-106.
Journal code: DCI; 0346653. ISSN: 0300-0664.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200009
ENTRY DATE: Entered STN: 20000922
Last Updated on STN: 20000922
Entered Medline: 20000912

AB OBJECTIVE: Previous studies have revealed that hormonal disturbances may

accompany the chronic fatigue syndrome (CFS). Changes in the secretion of the pituitary-adrenal axis have been demonstrated, as well as abnormalities in the GH- ***IGF*** - ***I*** axis. However, data have not always been well characterized and were sometimes conflicting. The small number of CFS patients investigated in earlier studies may have played a role in the interpretation of the results. SUBJECTS AND DESIGN: Hormonal testing was performed in 73 nonobese CFS patients and nonobese 21 age-and gender-matched healthy controls. We investigated GH, ACTH and cortisol responses to insulin-induced hypoglycaemia. In a subgroup of patients ***arginine*** and clonidine stimulation for GH was also performed. Nocturnal secretion of GH, ACTH and cortisol were determined. Serum levels of ***IGF*** - ***I*** , prolactin, TSH, and free thyroxine were also measured. Visceral fat mass was assessed by CT scanning. RESULTS: GH response to insulin induced hypoglycaemia assessed by peak value (17.0 +/- 13.1 microg/l vs. 22. 1 +/- 9.8 microg/l; P = 0.01) and by AUC (450.0 +/- 361.3 microg/l vs. 672.3 +/- 393.0 microg/l; P = 0.002) was significantly decreased in CFS patients vs. controls. Nocturnal GH secretion assessed by GH peak value (5.4 +/- 3.7 vs. 9.0 +/- 5.1 microg/l; P = 0.44) and by AUC (34.4 +/- 20.2 vs. 67.4 +/- 43.1; P = 0.045) was also significantly impaired in CFS patients. ***Arginine*** and clonidine administration showed no differences in GH secretion between CFS patients and controls. In the CFS group, GH peak values were significantly higher after ITT than after ***arginine*** (P = 0.017) or clonidine (P = 0.001). No differences in serum ***IGF*** - ***I*** levels were found between CFS patients and controls. Except for a significantly lower nocturnal cortisol peak value, no differences were found in ACTH and cortisol secretion between CFS patients and controls. Significantly higher serum prolactin levels (7.4 +/- 4.7 microg/l vs. 4.4 +/- 1.3 microg/l; P = 0.004) and significantly higher serum TSH levels (1.6 +/- 1.0 mU/l vs. 1.0 +/- 0.4 mU/l; P = 0.011) were found in CFS patients. Serum free thyroxine was comparable in both groups. Visceral fat mass was significantly higher in CFS patients (86.6 +/- 34.9 cm2 vs. 51.5 +/- 15.7 cm2; P < 0.001). CONCLUSIONS: We observed a significant impairment of GH response during insulin-induced hypoglycaemia and a low nocturnal GH secretion in CFS patients. These changes did, however, not lead to different concentrations in serum ***IGF*** - ***I*** . The clinical expression of this inadequate GH secretion can thus be questioned, although the alteration in body ***composition*** may be related to this relative GH deficiency. Significantly increased prolactin and TSH levels were found when compared to controls. These findings give support to the hypothesis of a decreased dopaminergic tone in CFS. Further investigations are required in order to identify specific adaptations within the neurotransmitter system in CFS and to determine the clinical importance of the impaired GH homeostasis.

L10 ANSWER 6 OF 28 MEDLINE
ACCESSION NUMBER: 1999208214 MEDLINE
DOCUMENT NUMBER: 99208214 PubMed ID: 10193871
TITLE: Growth hormone in obesity.
AUTHOR: Scacchi M; Pincelli A I; Cavagnini F
CORPORATE SOURCE: University of Milan, IRCCS Ospedale San Luca, Istituto Auxologico Italiano, Italy.
SOURCE: INTERNATIONAL JOURNAL OF OBESITY AND RELATED METABOLIC DISORDERS, (1999 Mar) 23 (3) 260-71. Ref: 150
Journal code: BTX; 9313169. ISSN: 0307-0565.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199905
ENTRY DATE: Entered STN: 19990601
Last Updated on STN: 20000303
Entered Medline: 19990517

AB Growth hormone (GH) secretion, either spontaneous or evoked by provocative stimuli, is markedly blunted in obesity. In fact obese patients display, compared to normal weight subjects, a reduced half-life, frequency of secretory episodes and daily production rate of the hormone. Furthermore, in these patients GH secretion is impaired in response to all traditional pharmacological stimuli acting at the hypothalamus (insulin-induced hypoglycaemia, ***arginine*** , galanin, L-dopa, clonidine, acute

glucocorticoid administration) and to direct somatotrope stimulation by exogenous growth hormone releasing hormone (GHRH). Compounds thought to inhibit hypothalamic somatostatin (SRIH) release (pyridostigmine, ***arginine*** , galanin, atenolol) consistently improve, though do not normalize, the somatotropin response to GHRH in obesity. The synthetic growth hormone releasing peptides (GHRPs) GHRP-6 and hexarelin elicit in obese patients GH responses greater than those evoked by GHRH, but still lower than those observed in lean subjects. The combined administration of GHRH and GHRP-6 represents the most powerful GH releasing stimulus known in obesity, but once again it is less effective in these patients than in lean subjects. As for the peripheral limb of the GH- ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) axis, high free ***IGF*** - ***I*** , low IGF-binding proteins 1 (IGFBP-1) and 2 (IGFBP-2), normal or high IGFBP-3 and increased GH binding protein (GHBP) circulating levels have been described in obesity. Recent evidence suggests that leptin, the product of adipocyte specific ob gene, exerts a stimulating effect on GH release in rodents; should the same hold true in man, the coexistence of high leptin and low GH serum levels in human obesity would fit in well with the concept of a leptin resistance in this condition. Concerning the influence of metabolic and nutritional factors, an impaired somatotropin response to hypoglycaemia and a failure of glucose load to inhibit spontaneous and stimulated GH release are well documented in obese patients; furthermore, drugs able to block lipolysis and thus to lower serum free fatty acids (NEFA) significantly improve somatotropin secretion in obesity. Caloric restriction and weight loss are followed by the restoration of a normal spontaneous and stimulated GH release. On the whole, hypothalamic, pituitary and peripheral factors appear to be involved in the GH hyposecretion of obesity. A SRIH hypertone, a GHRH deficiency or a functional failure of the somatotrope have been proposed as contributing factors. A lack of the putative endogenous ligand for GHRP receptors is another challenging hypothesis. On the peripheral side, the elevated plasma levels of NEFA and free ***IGF*** - ***I*** may play a major role. Whatever the cause, the defect of GH secretion in obesity appears to be of secondary, probably adaptive, nature since it is completely reversed by the normalization of body weight. In spite of this, treatment with biosynthetic GH has been shown to improve the body ***composition*** and the metabolic efficacy of lean body mass in obese patients undergoing therapeutic severe caloric restriction. GH and conceivably GHRPs might therefore have a place in the therapy of obesity.

L10 ANSWER 7 OF 28 MEDLINE
ACCESSION NUMBER: 1999116799 MEDLINE
DOCUMENT NUMBER: 99116799 PubMed ID: 9920071
TITLE: Increased cortical bone content of insulin-like growth factors in acromegalic patients.
AUTHOR: Ueland T; Bollerslev J; Hansen T B; Ebbesen E N; Mosekilde L; Brixen K; Flyvbjerg A; Djoseland O
CORPORATE SOURCE: Department of Endocrinology, National University Hospital, Oslo, Norway.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (1999 Jan) 84 (1) 123-7.
Journal code: HRB; 0375362. ISSN: 0021-972X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 19990216
Last Updated on STN: 19990216
Entered Medline: 19990203

AB To investigate cortical bone ***composition*** and the role of the insulin-like growth factor (IGF) system in active acromegaly, iliac crest bone biopsies were obtained from 15 patients (3 women and 12 men), aged 21-64 yr (mean, 45.6 yr), and 25 age- and sex-matched controls (8 women and 17 men), aged 22-66 yr (mean, 44.6 yr). Levels of ***IGF*** - ***I*** , IGF-II, IGF-binding protein-3 (IGFBP-3), IGFBP-5, and total protein were determined in extracts obtained after ethylenediamine tetraacetate and ***guanidine*** hydrochloride extraction. Osteocalcin and calcium were determined in extracts after HCl hydrolysis. Cortical bone contents of ***IGF*** - ***I*** , IGF-II, and IGFBP-5 were significantly elevated in the acromegalic patients compared with control

values [91% (P < 0.001), 44% (P < 0.04), and 115% (P < 0.004), respectively]. There was no significant difference in IGFBP-1, osteocalcin, protein, and calcium between patients and controls. This study suggests that the increased levels of growth factors in cortical bone from acromegalics is a reflection of local production, secondary to a chronic systemic excess of GH and ***IGF*** - ***I*** .

L10 ANSWER 8 OF 28 MEDLINE
ACCESSION NUMBER: 1998331485 MEDLINE
DOCUMENT NUMBER: 98331485 PubMed ID: 9666868
TITLE: The diagnosis of severe growth hormone deficiency in elderly patients with hypothalamic-pituitary disease.
AUTHOR: Toogood A A; Jones J; O'Neill P A; Thorner M O; Shalet S M
CORPORATE SOURCE: Department of Endocrinology, Christie Hospital, Withington, Manchester, UK.
CONTRACT NUMBER: PO1 00847
SOURCE: CLINICAL ENDOCRINOLOGY, (1998 May) 48 (5) 569-76.
Journal code: DCI; 0346653. ISSN: 0300-0664.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199807
ENTRY DATE: Entered STN: 19980811
Last Updated on STN: 19980811
Entered Medline: 19980727

AB OBJECTIVE: Adults over the age of 60 years with organic disease of the hypothalamic-pituitary axis may be deficient in growth hormone (GH) to a degree that is distinct from the age-related decline in GH secretion and sufficient to cause perturbations of body ***composition*** , serum lipid profile and bone metabolism. In order to determine the best method for detecting GH deficiency in this age group we have compared spontaneous GH secretion, a provocative test of GH secretion, the ***arginine*** stimulation test (AST), and basal estimates of circulating insulin-like growth factors (IGF) and IGF-binding proteins (IGFBP). DESIGN: Twenty-four patients (16 male) with organic hypothalamic-pituitary disease and 24 controls (17 male) were studied. The groups were matched for BMI but the patients were slightly younger than the controls, 66.0 (61.0-85.7) vs. 70.6 (60.8-87.5) years (P = 0.04). All subjects underwent a 24-h GH profile (20-minute sampling), measurement of serum ***IGF*** - ***I*** , IGF-II, IGFBP3, IGFBP2 and growth hormone binding protein (GHBP) and, after an overnight fast, an AST (intravenous ***arginine*** 20 g/m2 over 30 minutes). GH concentrations were measured using an ultrasensitive chemiluminescence assay (sensitivity 0.002 microgram/l). Normative data for serum ***IGF*** - ***I*** , IGF-II, IGFBP3 and IGFBP2 were obtained from 125 subjects aged 60-87 years. RESULTS: None of the parameters studied was able to distinguish between all the GH deficient patients and the healthy controls. The median (range) area under the GH profile (AUCGH) and peak GH response to ***arginine*** were lower in the patients than in the controls, 310.05 (18.90-2193.36) vs. 2518.20 (526.76-12024.97) min mU/l (P < 0.00001), 1.07 (0.08-17.90) vs. 23.06 (4.60-109.98) mU/l (P < 0.00001), respectively. There was a significant relationship between AUCGH and peak GH response to ***arginine*** in the patients (r = 0.89, P < 0.0001) and in the controls (r = 0.56, P = 0.005). Serum ***IGF*** - ***I*** , IGFBP2, and IGFBP3 levels were significantly lower in the patients compared with the normal range, 102 (14-162) vs. 142 (59-298) micrograms/l (P < 0.0001), 415 (122-1868) vs. 640 (140-2585) micrograms/l (P = 0.0007) and 2.29 (0.81-3.75) vs. 2.59 (1.00-3.52) mg/l (P = 0.009), respectively. The degree of overlap between the two groups, however, was too great to make these measurements useful diagnostically. Serum IGF-II and GHBP concentrations in the patients were not significantly different from the normal range. The patients were divided into groups determined by the number of anterior pituitary hormone deficits present. There was a significant downward trend in the peak GH response to ***arginine*** with increasing severity of hypopituitarism (J = -3.04, P = 0.0012). Ninety per cent of patients with two or three additional pituitary deficiencies had a peak GH response less than 2.0 mU/l. CONCLUSIONS: Of the indices studied the ***arginine*** stimulation test is more effective than GH markers, such as ***IGF*** - ***I*** or IGFBP3, or measurement of spontaneous GH secretion for diagnosing GH deficiency in adults over the age of 60 years. By relating the peak GH response to the degree of hypopituitarism, a GH response less

than 2.0 mU/l is suggestive of severe GH deficiency in this age group under the appropriate clinic[redacted]circumstances.

L10 ANSWER 9 OF 28 MEDLINE
ACCESSION NUMBER: 1998100231 MEDLINE
DOCUMENT NUMBER: 98100231 PubMed ID: 9437577
TITLE: Dietary fatty acids modulate hormone responses in lactating cows: mechanistic role for 5'-deiodinase activity in tissue.
AUTHOR: Romo G A; Elsasser T H; Kahl S; Erdman R A; Casper D P
CORPORATE SOURCE: Department of Animal Sciences, University of Maryland, College Park 20742, USA.
SOURCE: DOMESTIC ANIMAL ENDOCRINOLOGY, (1997 Nov) 14 (6) 409-20. Journal code: DO1; 8505191. ISSN: 0739-7240.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199802
ENTRY DATE: Entered STN: 19980224
Last Updated on STN: 19980224
Entered Medline: 19980206

AB Supplemental dietary fat provides excess fatty acids (FA), which can alter circulating concentrations of several hormones. To test the effects of fatty acid isomer type and possible sites of regulation, we abomasally infused fat mixtures high in cis-C18:1 FA (iCIS), high in trans-C18:1 FA (iTRS) or no infusion (NI) and performed intravenous ***arginine*** (ARG) and intramuscular thyrotropin-releasing hormone (TRH) challenges. The experimental design was a replicated 3 x 3 Latin square. Challenges were conducted on Days 10 (ARG) and 12 (TRH) after initiation of fat infusion on each of three 4-wk experimental periods. Plasma concentrations of ***IGF*** - ***I*** were lower ($P < 0.01$) when cows received iCIS or iTRS compared with NI. Plasma insulin concentrations increased with ARG but responses were not affected by FA. Plasma growth hormone (GH) was unchanged after ARG. Peak plasma GH and thyroid-stimulating hormone (TSH) responses to TRH were blunted ($P < 0.05$ and $P < 0.1$, respectively), whereas thyroxine (T4) and triiodothyronine (T3) responses were augmented post-TRH ($P < 0.01$) when cows received either FA isomer. Prolactin responses to TRH were not different between infusion treatments, although basal plasma concentrations before TRH were higher in cows infused with iTRS ($P < 0.05$). To focus on fat regulation of the thyroid axis, we tested directly in vitro the ability of fatty acids dissolved with sodium taurocholate to affect Type-I 5'-deiodinase (5'D) activity in bovine liver homogenates. Homogenate 5'D was not affected by C2:0-C10:0 fatty acids, but decreased linearly ($P < 0.01$) with increasing concentrations of C12:0-C16:0 and C18:1 isomers. Cis C18:1 decreased 5'D more than the trans-isomer ($P < 0.01$), but the difference was only apparent at concentrations greater than 0.25 mM. The data suggest that various aspects of pituitary hormone regulation are differentially affected by FA ***composition*** . Fatty acid infusion may accentuate end organ responses in the thyroid axis and decrease ***IGF*** - ***I*** in the somatotropic axis. The data also suggest that FA isomer may alter patterns of extrathyroidal generation of thyroid hormones via direct influences on 5'D.

L10 ANSWER 10 OF 28 MEDLINE
ACCESSION NUMBER: 97255219 MEDLINE
DOCUMENT NUMBER: 97255219 PubMed ID: 9100566
TITLE: Growth hormone (GH)-binding protein in prepubertal short children born small for gestational age: effects of growth hormone treatment. Swedish Study Group for Growth Hormone Treatment.
AUTHOR: Boguszewski M; Bjarnason R; Rosberg S; Carlsson L M; Albertsson-Wikland K
CORPORATE SOURCE: Department of Pediatrics, University of Goteborg, Sweden.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (1997 Apr) 82 (4) 1014-9.
Journal code: HRB; 0375362. ISSN: 0021-972X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH: 199705
ENTRY DATE: Entered STN: [redacted]70514
Last Updated on STN: 19970514
Entered Medline: 19970506

AB This study was undertaken to characterize the serum levels of GH-binding protein (GHBP) before and during GH treatment in prepubertal short children born small for gestational age (SGA) and their relationship with growth parameters. Sixty-seven prepubertal short children (49 boys and 18 girls; height SD score, -5.4 to -2.0; age, 2.0-12.8 yr) born SGA, 8 of whom (6 boys and 2 girls) had signs of Silver-Russell syndrome, participated in the study. Total GHBP was measured by a ligand-mediated immunofunctional assay. The mean (SD) change in height SD score during the year before the start of GH treatment (0.1 IU/kg.day) was 0.11 (0.20) SD score, and this value increased to a 0.84 (0.43) SD score during the first year ($P < 0.001$) and to a 1.27 (0.63) SD score during the 2-yr period of therapy ($P < 0.001$). The baseline GHBP values ranged from 49-392 pmol/L, and no relationships were found among sex, chronological age, and maximal GH response to an ***arginine*** -insulin tolerance test. A positive correlation between GHBP and body ***composition*** , expressed as weight for height SD score, was found in the whole group ($r = 0.28$; $P < 0.05$) and in boys ($r = 0.44$; $P < 0.01$). No relationship was found between GHBP and spontaneous 24-h GH secretion, in terms of either GH secretion rate or pulsatile pattern, whereas GHBP was positively correlated with ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) SD score ($r = 0.28$; $P < 0.05$) and IGF-binding protein-3 SD score ($r = 0.39$; $P < 0.01$). Using a multiple stepwise linear regression analysis, the model using the IGF-binding protein-3 SD score and the weight for height SD score at the start of GH therapy accounted for 33% of the variance in the baseline GHBP values. A mean increase of 27 (51)% in GHBP levels was found after 1 yr of therapy. However, a high degree of variability in the response of individuals to GH treatment in terms of GHBP levels was observed: in some children GHBP levels increased, whereas in others they decreased. In conclusion, GHBP levels in short prepubertal children born SGA were mostly within the normal range previously reported and correlated directly with body ***composition*** . An increase in GHBP levels was observed during GH treatment in some SGA children. No correlation was found between pretreatment GHBP levels and growth response to GH treatment.

L10 ANSWER 11 OF 28 MEDLINE
ACCESSION NUMBER: 97143234 MEDLINE
DOCUMENT NUMBER: 97143234 PubMed ID: 8989245
TITLE: Abdominal fat determines growth hormone-binding protein levels in healthy nonobese adults.
AUTHOR: Fisker S; Vahl N; Jorgensen J O; Christiansen J S; Orskov H
CORPORATE SOURCE: Department of Endocrinology and Diabetes, University Hospital of Aarhus, Denmark.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (1997 Jan) 82 (1) 123-8.
Journal code: HRB; 0375362. ISSN: 0021-972X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199701
ENTRY DATE: Entered STN: 19970219
Last Updated on STN: 19970219
Entered Medline: 19970130

AB The circulating high affinity GH-binding protein (GHBP), which derives from the extracellular domain of the hepatic GH receptor, correlates inversely to GH levels and directly to body mass index (BMI) in healthy adults. As GH secretion and adiposity are also interrelated, we tested the hypothesis that body ***composition*** more than GH, determines GHBP levels in healthy adults. Forty-two healthy adults [21 females and 21 males; mean age, 39.4 yr range, 27-59 yr); mean BMI, 23.9 kg/m2 (range, 18.9-34.7 kg/m2)], underwent anthropometric measurements (BMI, W/H ratio, computed tomography scan, dual energy x-ray absortiometry (DEXA) scan, and bioimpedance) in addition to two GH stimulation tests (***arginine*** and clonidine) and a 24-h GH profile. By simple linear regression, serum GHBP correlated positively to several indices of adiposity: intraabdominal fat ($r = 0.537$; $P = 0.001$), sc abdominal fat ($r = 0.680$; $P < 0.001$), BMI ($r = 0.483$; $P = 0.001$), W/H ratio ($r = 0.452$; $P = 0.003$), total body fat

(DEXA scanning; r = 0.503; P = 0.002), and body fat (bioimpedance; r = 0.354; P = 0.023). Lean body mass estimated by DEXA scan was negatively associated with GHBP (r = 0.541; P < 0.001). GHBP was inversely proportional to ***arginine*** -stimulated GH release (r = -0.346; P = 0.027) and negatively associated with several measures of spontaneous GH release as estimated by deconvolution analysis (GH mass, GH production rate, and mean GH; r = -0.371; P = 0.017, r = -0.393; P = 0.011, and r = -0.343; P = 0.028, respectively)). With multiple linear regression analyses, indices of adiposity were significant determinants of GHBP levels, whereas GH status did not contribute independently to the prediction of GHBP. Neither ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** nor fasting insulin levels correlated to GHBP levels. In conclusion, GHBP levels in normal adults seem to be determined by abdominal fat mass rather than GH secretion.

L10 ANSWER 12 OF 28 MEDLINE
ACCESSION NUMBER: 97107892 MEDLINE
DOCUMENT NUMBER: 97107892 PubMed ID: 8950617
TITLE: Diagnosis of growth hormone deficiency in adults.
AUTHOR: Korbonits M; Besser M
CORPORATE SOURCE: Department of Endocrinology, St. Bartholomew's Hospital, London, UK.
SOURCE: HORMONE RESEARCH, (1996) 46 (4-5) 174-82. Ref: 62
Journal code: GBI; 0366126. ISSN: 0301-0163.
PUB. COUNTRY: Switzerland
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199702
ENTRY DATE: Entered STN: 19970313
Last Updated on STN: 19970313
Entered Medline: 19970228

AB The potential effects of growth hormone (GH) deficiency in adults and the importance of GH secretion in adult life have only been recognized and documented recently. It has been suggested that GH-deficient adults may have premature mortality, abnormalities in body ***composition*** and bone density with impaired physical performance and psychological well-being, which are sometimes improved by GH replacement. It is essential, therefore, to establish reliable standards to define GH deficiency in adults. Patients with possible GH deficiency often have primary pituitary or hypothalamic disorders or have undergone surgery or radiotherapy, and thus show evidence of a failure of one of the other pituitary hormones. Several biochemical approaches have been studied to define GH deficiency in the adult and no universal consensus has yet been reached. The most widely established criterion is the peak serum GH concentration achieved during a provocative test, usually the insulin tolerance test (ITT), or following other pharmacological stimuli (e.g. glucagon, ***arginine*** , clonidine or GH-releasing factor) but, alternatively, a more physiological stimulus (such as sleep, fasting or exercise) has been used. Spontaneous circulating levels of hormones of the GH axis [24-hour integrated GH concentration, serum ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) or IGF-binding protein-3] have been used in the diagnosis of childhood GH deficiency. They have been tested in adults as well but seem to have a more limited role. There are several factors complicating the evaluation of these results. Basal and stimulated GH and ***IGF*** - ***I*** levels decline with age and with obesity, levels tend to be higher in females and are dependent on nutritional and physical status. The ITT potentially has some risk attached, e.g. in the presence of ischaemic heart disease, but it has proved to be safe in general when used in specialized departments. Other tests are less reliable; releasing hormone tests only assess the readily releasable stores within the pituitary and not the physiological secretory status. The 'cut-off' point for the definition of subnormal responses ideally needs to be set for each provocative test, for each age group, for each degree of obesity and for both sexes. There is considerable variability in GH assays among different laboratories, which makes it difficult to compare hormone levels. The reproducibility of provocative tests can also be variable. An advantage of the hypoglycaemia and glucagon tests is that they allow simultaneous assessment of the adrenocorticotropic hormone reserve.

L10 ANSWER 13 OF 28 MEDLINE
ACCESSION NUMBER: 97041899 MEDLINE
DOCUMENT NUMBER: 97041899 PubMed ID: 8887170
TITLE: Human aging and the GH-IGF-I axis.
AUTHOR: Ghigo E; Arvat E; Gianotti L; Ramunni J; DiVito L; Maccagno B; Grottoli S; Camanni F
CORPORATE SOURCE: Department of Internal Medicine, University of Turin, Italy.
SOURCE: JOURNAL OF PEDIATRIC ENDOCRINOLOGY AND METABOLISM, (1996 Jun) 9 Suppl 3 271-8. Ref: 74
Journal code: CEF; 9508900.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199702
ENTRY DATE: Entered STN: 19970227
Last Updated on STN: 19970227
Entered Medline: 19970213

AB The activity of the GH- ***IGF*** - ***I*** axis undergoes an age-related reduction and in the elderly both spontaneous GH secretion and ***IGF*** - ***I*** levels are frequently low overlapping with those usually recorded in GH deficient patients. Hypoactivity of the GH- ***IGF*** - ***I*** axis could explain age-related changes in body ***composition*** , function and metabolism, as also indicated by evidence that treatment with rhGH reverses these alterations. The mechanisms underlying the hypoactivity of the GH- ***IGF*** - ***I*** axis in the aged likely include changes in nutrition and lifestyle, e.g. reduction of physical exercise. However, alterations of neurohormonal hypothalamic control of GH secretion, including reduced activity of GHRH-secreting neurons and somatostatinergic hyper-activity, seem to play a major role. The exaggerated somatostatinergic hyperactivity could be due, in turn, to the impairment of cholinergic activity found in the aging brain. Age-related variations in the activity of other neurotransmitters, such as catecholamines, amino acids, e.g. ***arginine*** , neuropeptides, e.g. galanin and/or a putative natural GHRP-like ligand, could play a key role in causing the reduced activity of the GH- ***IGF*** - ***I*** axis. It is still unclear whether it is of benefit to restore GH secretion in aging. As the pituitary GH releasable pool is preserved in the elderly, it would be more appropriate to increase GH by GH secretagogues such as the new synthetic GH-releasing peptides (GHRPs) or non-peptidyl GHRP mimetics which are active even with oral administration.

L10 ANSWER 14 OF 28 MEDLINE
ACCESSION NUMBER: 95229845 MEDLINE
DOCUMENT NUMBER: 95229845 PubMed ID: 7536210
TITLE: Massive weight loss restores 24-hour growth hormone release profiles and serum insulin-like growth factor-I levels in obese subjects.
COMMENT: Erratum in: J Clin Endocrinol Metab 1995 Aug;80(8):2446
AUTHOR: Rasmussen M H; Hvidberg A; Juul A; Main K M; Gotfredsen A; Skakkebaek N E; Hilsted J; Skakkebae N E [corrected to Skakkebaek NE]
CORPORATE SOURCE: Department of Internal Medicine and Endocrinology, Hvidovre University Hospital, Denmark.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (1995 Apr) 80 (4) 1407-15.
Journal code: HRB; 0375362. ISSN: 0021-972X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199505
ENTRY DATE: Entered STN: 19950524
Last Updated on STN: 19960129
Entered Medline: 19950512

AB In the present study, we 1) determined whether the impaired spontaneous 24-h GH secretion as well as the blunted GH response to provocative

testing in obese subjects are persistent disorders or transient defects reversed with weight loss and) investigated 24-h urinary GH [redacted]cretion and basal levels of ***insulin*** - ***like*** ***growth*** ***factor*** - ***I*** (***IGF*** - ***I***), IGF-binding protein-3 (IGFBP-3), as well as insulin in obese subjects before and after a massive weight loss. We studied 18 obese subjects (age, 26 +/- 1 yr; body mass index, 40.9 +/- 1.1 kg/m2); 18 normal age-, and sex-matched control subjects; and 9 reduced weight obese subjects after a diet-induced average weight loss of 30.3 +/- 4.6 kg. Twenty-four-hour spontaneous GH secretion was estimated by obtaining 3240 integrated 20-min blood samples using a constant blood withdrawal technique and computerized algorithms. Body ***composition*** was determined using anthropometric measurements and dual energy x-ray absorptiometry scanning (DXA). In the obese subjects, 24-h spontaneous GH release profiles and the GH responses to insulin-induced hypoglycemia and L- ***arginine*** as well as basal ***IGF*** - ***I*** levels and the ***IGF*** - ***I*** /IGFBP-3 molar ratio were decreased, whereas insulin levels were elevated compared to those in normal subjects. In obese subjects, 24-h spontaneous GH secretion and serum ***IGF*** - ***I*** levels were inversely related to abdominal fat ($r = -0.67$; $P < 0.01$) and percent body fat ($r = -0.69$; $P < 0.01$), respectively. The decreased 24-h spontaneous GH release profiles, the decreased GH responses to insulin-induced hypoglycemia and L- ***arginine*** , the decreased basal ***IGF*** - ***I*** levels and ***IGF*** - ***I*** /IGFBP-3 molar ratio, as well as the elevated insulin levels were returned to normal after a massive weight loss in the obese subjects. In conclusion, the present study has shown reversible defects in 24-h spontaneous GH release profiles, basal ***IGF*** - ***I*** levels, and the ***IGF*** - ***I*** /IGFBP-3 molar ratio in obese subjects. The recovery of the 24-h GH release points to an acquired transient defect rather than a persistent preexisting disorder.

L10 ANSWER 15 OF 28 MEDLINE
ACCESSION NUMBER: 94230679 MEDLINE
DOCUMENT NUMBER: 94230679 PubMed ID: 8175969
TITLE: Chronic baclofen therapy improves the blunted growth hormone response to intravenous arginine in subjects with spinal cord injury.
AUTHOR: Bauman W A; Spungen A M; Zhong Y G; Tsitouras P D
CORPORATE SOURCE: Spinal Cord Damage Research Center, Mt. Sinai Medical Center, New York, New York 10029.
SOURCE: JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, (1994 May) 78 (5) 1135-8.
Journal code: HRB; 0375362. ISSN: 0021-972X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199406
ENTRY DATE: Entered STN: 19940620
Last Updated on STN: 19940620
Entered Medline: 19940608

AB Human GH (hGH) secretion is stimulated by vigorous physical activity, whereas immobilization reduces its release. In paralyzed subjects with spinal cord injury (SCI), it has recently been shown that the release of hGH to provocative stimulation and plasma ***insulin*** - ***like*** ***growth*** ***factor*** - ***I*** (***IGF*** - ***I***) levels are reduced. The acute administration of baclofen, a gamma-aminobutyric acid derivative, has been shown to stimulate hGH release. The present study investigated the effect of chronic administration of baclofen on the provocative testing of hGH secretion and plasma ***IGF*** - ***I*** levels. Sixteen subjects with SCI were studied; eight subjects were treated (40-80 mg/day; > 6 months) with baclofen (Bac+), and eight were not (Bac-). Additionally, 8 non-SCI subjects were studied as controls. The groups were matched for gender and age. The subjects were not receiving any medications known to influence hGH secretion. After an overnight fast, ***arginine*** hydrochloride (30 g/subject) was infused iv over 30 min, with blood drawn for hormone determinations at baseline and 30, 60, 90, and 120 min. In the Bac- group compared with the Bac+ group, the ***arginine*** -stimulated mean plasma hGH levels at 30 and 60 min ($P < 0.05$) and peak and sum plasma hGH levels ($P < 0.01$) were reduced. There were no significant differences in the plasma hGH response between the Bac+ group and the control group.

Plasma ***IGF*** - ***I*** levels may reflect the integrated tissue response to hGH. A significant inverse relationship was present between age and plasma ***IGF*** - ***I*** levels for the control and Bac+ groups, but not for the Bac- group. The mean plasma ***IGF*** - ***I*** level was significantly reduced in the Bac- compared with the Bac+ group. No significant differences in mean plasma ***IGF*** - ***I*** levels were noted between the Bac+ and control groups. SCI is associated with body ***composition*** changes and metabolic alterations that may be exacerbated by reduced activity of the hGH-***IGF*** - ***I*** axis. Oral chronic baclofen therapy appears to reverse the deleterious effects of paralysis and immobilization on hGH physiology.

L10 ANSWER 16 OF 28 MEDLINE
ACCESSION NUMBER: 93381418 MEDLINE
DOCUMENT NUMBER: 93381418 PubMed ID: 8371075
TITLE: Anabolic effects of insulin-like growth factor-I (IGF-I) and an IGF-I variant in normal female rats.
AUTHOR: Tomas F M; Knowles S E; Chandler C S; Francis G L; Owens P C; Ballard F J
CORPORATE SOURCE: Cooperative Research Centre for Tissue Growth and Repair, Child Health Research Institute, Adelaide, South Australia.
SOURCE: JOURNAL OF ENDOCRINOLOGY, (1993 Jun) 137 (3) 413-21.
Journal code: I1J; 0375363. ISSN: 0022-0795.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199310
ENTRY DATE: Entered STN: 19931029
Last Updated on STN: 19931029
Entered Medline: 19931013

AB Administration of ***IGF*** - ***I*** over a 14-day period to growing female rats via s.c. implanted osmotic pumps led to an increased body weight gain, an improved N retention and a greater food conversion efficiency. The effects were dose-dependent, with the highest daily dose tested, 278 micrograms/day, producing 18-26% increases in these measurements. LR3IGF-I, a variant of human ***IGF*** - ***I*** that contains an amino terminal extension peptide as well as glutamate-3 replaced by ***arginine*** and exhibits very weak binding to IGF-binding proteins, was substantially more potent than the natural growth factor, in the 44 micrograms/day of this peptide produced similar effects to the high ***IGF*** - ***I*** dose. Organ weight and carcass ***composition*** measurements showed that the two IGF peptides generally maintained body proportions at those existing when the experiment began. Muscle protein synthesis and myofibrillar protein breakdown were both slightly increased by IGF treatment, so that the observed improvement in N retention could not be explained through protein accretion rates calculated from these measures. Infusion of human GH at a dose of 213 micrograms/day did not stimulate body growth. This investigation establishes that IGF peptides stimulate the growth of normal growing animals, with ***IGF*** - ***I*** variants that bind less well to IGF-binding proteins being more active than ***IGF*** - ***I*** .

L10 ANSWER 17 OF 28 MEDLINE
ACCESSION NUMBER: 93301376 MEDLINE
DOCUMENT NUMBER: 93301376 PubMed ID: 8315224
TITLE: Oral arginine-lysine does not increase growth hormone or insulin-like growth factor-I in old men.
AUTHOR: Corpas E; Blackman M R; Roberson R; Scholfield D; Harman S M
CORPORATE SOURCE: Gerontology Research Center, Baltimore, MD 21224.
CONTRACT NUMBER: MO1-RR02719 (NCRR)
SOURCE: JOURNAL OF GERONTOLOGY, (1993 Jul) 48 (4) M128-33.
Journal code: IAV; 0374762. ISSN: 0022-1422.
PUB. COUNTRY: United States
(CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH: 199307
ENTRY DATE: Entered STN: 30813
Last Updated on STN: 19960129
Entered Medline: 19930729

AB BACKGROUND. Older adults tend to have reduced growth hormone (GH) secretion and ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) levels as well as changes in body ***composition*** which are partially reversed by GH injections. ***Arginine*** stimulates GH release, and lysine may amplify this response. We investigated whether oral ***arginine*** /lysine could be used to increase basal ***IGF*** - ***I*** and GH levels in non-obese old men (age 69 +/- 5 years; mean +/- SD) to values similar to those of untreated young men (age 26 +/- 4 years). METHODS. Two groups of 8 healthy old men were treated with 3 g of ***arginine*** plus 3 g of lysine or with placebo capsules twice daily for 14 days. Before and on day 14 of each treatment GH levels were determined in blood samples taken at 20-minute intervals from 2000-0800 h, ***IGF*** - ***I*** was measured at 0800 h, and a 1 microgram/kg GHRH stimulation test was done. RESULTS. At baseline, mean GH peak amplitude ($p < .02$) and serum ***IGF*** - ***I*** ($p < .0001$) were lower, whereas GHRH responses were similar, in old vs young men. ***Arginine*** /lysine did not significantly alter spontaneous or GHRH-stimulated GH levels, or serum ***IGF*** - ***I*** . ***Arginine*** absorption was age-independent. The correlation ($p < .005$) between measured increments in serum ***arginine*** and increases in serum GH after a single dose of ***arginine*** /lysine was similar in old and young groups. CONCLUSIONS. Our data suggest that oral ***arginine*** /lysine is not a practical means of chronically enhancing GH secretion in old men.

L10 ANSWER 18 OF 28 MEDLINE
ACCESSION NUMBER: 92090510 MEDLINE
DOCUMENT NUMBER: 92090510 PubMed ID: 1752341
TITLE: A case of dwarfism with severely reduced activity of growth hormone-binding protein.
AUTHOR: Igarashi N; Sato T
CORPORATE SOURCE: Department of Pediatrics, Kanazawa University School of Medicine, Japan.
SOURCE: NIPPON NAIBUNPI GAKKAI ZASSHI. FOLIA ENDOCRINOLOGICA JAPONICA, (1991 Oct 20) 67 (10) 1219-29.
Journal code: EZV; 0413717. ISSN: 0029-0661.
PUB. COUNTRY: Japan
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Japanese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199201
ENTRY DATE: Entered STN: 19920216
Last Updated on STN: 19920216
Entered Medline: 19920127

AB We presented a 16-year-old boy with severe growth retardation and markedly decreased levels of growth hormone-binding protein (GHBP) in plasma, which was shown to correspond to the extracellular ***composition*** of hepatic GH receptor and suggested to reflect tissue concentration of the receptor. His height was 92.5 cm (-13.5 SD), the weight 9.6kg (-5.8 SD) and Tanner stage was I. His bone age was 3.5 years old at 16 years of age. Karyotype was 46,XY and thyroid function was normal. SM-C levels, determined by Nichols RIA using unextracted plasma, were within the low normal range, 0.67/0.68U/ml. In contrast, using a method of acid-ethanol extraction, ***IGF*** - ***I*** and IGF-II levels were definitely low, 29ng/ml (normal 88-240) and 165ng/ml (374-804) respectively. GH responses in various provocation tests, including insulin, ***arginine*** and GRF, were within normal. Basal GH levels were 20 +/- 12ng/ml and urinary GH excretion rates 217 +/- 85pg/mg. Cr, which were elevated compared to age-matched control. Molecular size of his circulating GH was similar to control subjects. The biological activities of GH, evaluated by radioreceptor assay and Nb2 cell bioassay, were proportional to the immunoactivities of GH. SM bioactivities, which were determined by the stimulatory effects on DNA synthesis of rabbit costal chondrocytes and human fibroblasts, were apparently reduced. Electrophoretic patterns of IGF-binding protein was similar to those of GH deficient cases. Daily administration of hGH (4U/day) for 5 days resulted in a poor response of SM-C production (before 0.68, after 0.77U/ml). GHBP activities were definitely low by gel-filtration, immunoprecipitation and

charcoal methods, as seen in Laron dwarfism which is defined as a syndrome of congenital GH receptor defects. These results indicate that the tissue content of GH receptor in this case was quantitatively reduced and as a result, he showed a resistance to endogenous and exogenous GH. It remains to be elucidated whether the GH receptor defect in our case is derived from a genetic origin or an acquired condition.

L10 ANSWER 19 OF 28 MEDLINE
ACCESSION NUMBER: 92009688 MEDLINE
DOCUMENT NUMBER: 92009688 PubMed ID: 1916649
TITLE: Exogenous human growth hormone reduces body fat in obese women.
AUTHOR: Skaggs S R; Crist D M
CORPORATE SOURCE: Department of Physiology, University of New Mexico, School of Medicine, Albuquergue.
CONTRACT NUMBER: M01-RR00997-14 (NCRR)
SOURCE: HORMONE RESEARCH, (1991) 35 (1) 19-24.
Journal code: GBI; 0366126. ISSN: 0301-0163.
PUB. COUNTRY: Switzerland
(CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199111
ENTRY DATE: Entered STN: 19920124
Last Updated on STN: 19970203
Entered Medline: 19911105

AB The effects of biosynthetic methionyl human growth hormone (met-hGH) on body ***composition*** and endogenous secretion of ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) were studied in obese women ranging between 138 and 226% of ideal body weight. Following double-blind procedures, 12 subjects were assigned at random to either treatment with met-hGH (n = 6, 0.08 mg/kg desirable body weight) or placebo (n = 6, bacteriostatic water diluent). Treatments were delivered intramuscularly three times per week for a period of 27-28 days. Subjects were instructed to follow a weight-maintaining diet and their pre- and posttreatment kilocaloric intake was monitored for verification. The baseline peak serum GH response to L-dopa/ ***arginine*** stimulation for the study population as a whole, was in the hyposecretory range (9.6 +/- 1.9 ng/ml), accompanied by a low level of circulating ***IGF*** - ***I*** (0.56 +/- 0.09 U/ml). Hydrodensitometry revealed that the met-hGH-treated subjects had a significant reduction in body fat, while an observed mean increase in fat-free mass (FFM) approached significance. The percent change in body fat was unrelated to pretreatment levels of body fat, total body weight, or initial endogenous GH status. Changes in circulating ***IGF*** - ***I*** were similar to those for FFM, with increases approaching significance. There were no significant changes in body ***composition*** or ***IGF*** - ***I*** in the placebo-treated subjects. No significant differences were observed in the self-reported dietary intake of kilocalories during the experimental period between the two groups. We conclude that exogenous GH reduces body fat in obese women in the apparent absence of significant kilocaloric restriction. The effect appears to be unrelated to endogenous GH secretion or body ***composition*** .

L10 ANSWER 20 OF 28 MEDLINE
ACCESSION NUMBER: 89007918 MEDLINE
DOCUMENT NUMBER: 89007918 PubMed ID: 3170408
TITLE: Body composition response to exogenous GH during training in highly conditioned adults.
AUTHOR: Crist D M; Peake G T; Egan P A; Waters D L
CORPORATE SOURCE: Department of Medicine, University of New Mexico School of Medicine, Albuquerque 87131.
CONTRACT NUMBER: M01-RR00997-11 (NCRR)
SOURCE: JOURNAL OF APPLIED PHYSIOLOGY, (1988 Aug) 65 (2) 579-84.
Journal code: HEG; 8502536. ISSN: 8750-7587.
PUB. COUNTRY: United States
(CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198811
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19881122

AB The effects of biosynthetic methionyl-human growth hormone (met-hGH) on body ***composition*** and endogenous secretion of growth hormone (GH) and ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) were studied in eight well-trained exercising adults between 22 and 33 yr of age. By the use of double-blind procedures, met-hGH (2.67 mg/0.5 ml diluent, 3 days/wk) and bacteriostatic water (placebo, 0.5 ml, 3 days/wk) were administered in a repeated-measures design that counterbalanced treatment order. Duration of each treatment was 6 wk. Subjects trained with progressive resistance exercise throughout and were maintained on a high-protein diet monitored by extensive compositional analyses of daily dietary intake records. Hydrodensitometry revealed that met-hGH significantly decreased percent body fat (%fat) and increased fat-free weight (FFW) and FFW/fat weight (FW), whereas the placebo treatment did not change any of these measures. Changes in FFW/FW correlated with the relative dose of met-hGH but did not correlate with either the peak GH response to L-dopa/ ***arginine*** stimulation or ***IGF*** - ***I*** levels obtained after treatment with placebo. There were no differences between treatments in the dietary intakes of total kilocalories, protein, carbohydrates, and fat. Mean ***IGF*** - ***I*** levels were elevated after treatment with met-hGH compared with postplacebo levels. After treatment with met-hGH, five of seven subjects had a suppressed GH response to stimulation from either L-dopa/ ***arginine*** or submaximal exercise. We conclude that supraphysiological doses of met-hGH will alter body ***composition*** in exercising adults in a relative dose-dependent manner and that such treatment may suppress endogenous release of GH in some individuals.

L10 ANSWER 21 OF 28 MEDLINE
ACCESSION NUMBER: 88065053 MEDLINE
DOCUMENT NUMBER: 88065053 PubMed ID: 3683183
TITLE: Exogenous growth hormone treatment alters body composition and increases natural killer cell activity in women with impaired endogenous growth hormone secretion.
AUTHOR: Crist D M; Peake G T; Mackinnon L T; Sibbitt W L Jr; Kraner J C
CORPORATE SOURCE: Department of Medicine, University of New Mexico School of Medicine, Albuquerque 87131.
CONTRACT NUMBER: M01-RR00997-09 (NCRR)
SOURCE: METABOLISM: CLINICAL AND EXPERIMENTAL, (1987 Dec) 36 (12) 1115-7.
Journal code: MUM; 0375267. ISSN: 0026-0495.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198801
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19880104

AB In order to assess the potential relationship between human growth hormone (GH) and body ***composition*** (BC) and natural immunity (NI), we measured the effects of exogenous GH on fat weight (FW), fat-free weight (FFW), and the cytotoxic activity of natural killer (NK) cells in women with impaired GH secretion. Mean peak serum concentrations of GH in response to L-dopa/ ***arginine*** stimulation were 6.2 +/- 1.1 (SEM) ng/mL in 6 untreated subjects (US) and 5.4 +/- 1.5 ng/mL in 6 GH-treated subjects (TS). Moreover, the pretreatment circulating levels of ***IGF*** - ***I*** were low in both groups (US 684 +/- 121 mU/mL and TS 583 +/- 83 mU/mL), and they correlated with pretest levels of NK cell activity (r = .59, P less than .05) when both groups were combined. The TS were given 700 micrograms of human GH IM for an average of 14 days while the US were studied in parallel without GH treatment. As measured by hydrodensitometry or skinfold anthropometry, FW decreased (26.1 +/- 6.8 kg to 23.8 +/- 6.3 kg, P less than .05) and FFW increased (44.9 +/- 3.3 kg to 46.2 +/- 3.8 kg, P less than .05) in the TS. In the US, there were no significant (P less than .05) changes in either FW or FFW. Using a

standard 51Cr release assay to measure the specific lytic (SL) activity of NK cells, mean SL activity increased from 24.4 +/- 7.0% to 44 +/- 8.9% (P less than .05) in the TS, whereas levels in the US were not altered significantly (P less than .05).(ABSTRACT TRUNCATED AT 250 WORDS)

L10 ANSWER 22 OF 28 MEDLINE
ACCESSION NUMBER: 86278218 MEDLINE
DOCUMENT NUMBER: 86278218 PubMed ID: 2426267
TITLE: Purification and amino-terminal sequence of an insulin-like growth factor-binding protein secreted by rat liver BRL-3A cells.
AUTHOR: Mottola C; MacDonald R G; Brackett J L; Mole J E; Anderson J K; Czech M P
CONTRACT NUMBER: 1 U41 RR01685 (NCRR)
AM 32520 (NIADDK)
AM30648 (NIADDK)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1986 Aug 25) 261 (24) 11180-8.
Journal code: HIV; 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198609
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 19970203
Entered Medline: 19860919

AB A protein preparation that specifically binds insulin-like growth factors (***IGFs***) ***I*** and II was purified from medium conditioned by rat liver BRL-3A cells using molecular sieve chromatography in 1 M acetic acid followed by affinity chromatography on IGF-II-agarose. The affinity-purified IGF-binding protein exhibits a single major band with apparent Mr = 36,300 under reducing conditions on sodium dodecyl sulfate-polyacrylamide gels. The IGF-binding protein is efficiently and specifically cross-linked to either 125I- ***IGF*** - ***I*** (human) or 125I-IGF-II (rat) using disuccinimidyl suberate. An IGF-binding protein of similar apparent molecular weight was also affinity purified from rat hepatoma H-35 cell conditioned medium and found to differ from the BRL-3A protein such that potent polyclonal antisera prepared in rabbits against the purified BRL-3A IGF-binding protein exhibited a much lower titer for the H-35 protein in an enzyme-linked immunosorbent assay and upon immunoblotting. In order to determine whether a single BRL-3A IGF-binding protein is present in the affinity-purified preparation, the protein was prepared for sequencing on a Sephacryl S-300 column in 6 M ***guanidine*** HCl after reduction and alkylation. The amino acid ***composition*** (expressed in percentages) of this IGF-binding protein was determined to be: Cys = 5.5, Lys = 4.8, His = 2.8, Arg = 7.8, Asx = 10.2, Thr = 5.1, Ser = 3.9, Glx = 15.7, Gly = 17.4, Ala = 7.3, Val = 4.6, Met = 1.4, Ile = 2.4, Leu = 8.3, Tyr = 1.0, Phe = 1.9. Sequencing of the NH2-terminal portion of this protein led to the identification of 31 amino acids in the following order: Phe-Arg-Cys-Pro-Pro-Cys-Thr-Pro-Glu-Arg-Leu-Ala-Ala-Cys-Gly-Pro-Pro-Pro- Asp-Ala-Pro-Cys-Ala-Glu-Leu-Val-Arg-Glu-Pro-Gly-Cys. We conclude that rat liver BRL-3A cells secrete a single major IGF-binding protein capable of binding both ***IGF*** - ***I*** and IGF-II.

L10 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:519338 CAPLUS
DOCUMENT NUMBER: 135:111978
TITLE: Arginine-decomposing enzyme therapeutic composition
INVENTOR(S): Tepic, Slobodan; Pyk, Pawel
PATENT ASSIGNEE(S): Switz.
SOURCE: U.S., 15 pp., Cont.-in-part of U.S. 5,851,985.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6261557	B1	20010717	US 1998-212858	19981217

US 5851985 A 19981222 US 1996-698876 19960816
PRIORITY APPLN. INFO.: US 1996-698876 A2 19960816
AB A therapeutic ***compn*** . and method for the treatment of cancer comprising an ***arginine*** -decompg. enzyme, particularly an ***arginine*** decarboxylase that is a biosynthetic ***arginine*** decarboxylase of E. coli and modifications thereof, and may be PEG-ilated. The therapeutic ***compn*** . may contain essential co-factors of said ***arginine*** -decompg. enzyme, protein breakdown inhibitors such as insulin, insulin-like growth factors, ***IGF*** - ***I*** , IGF-II, growth hormones, protein breakdown-inhibiting peptide aldehydes such as Cbz-Leu-Leu-Leucinal, or lactacystin, and glucose, all of which can be admixed with the ***arginine*** -decompg. enzyme or may be maintained apart from and sep. administered from the ***arginine*** -decompg. enzyme. The therapeutic ***compn*** . can be administered i.v., i.p., i.m., intraventricularly, nasally, extracorporeally or orally.
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:741949 CAPLUS
DOCUMENT NUMBER: 133:313654
TITLE: Composition based on oppositely-charged polypeptides
INVENTOR(S): Oeswein, James Q.; Smikahl, John R.; Wang, Sharon X.; Yeung, Douglas A.
PATENT ASSIGNEE(S): Genentech, Inc., USA
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061177	A1	20001019	WO 2000-US8682	20000330
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1165119	A1	20020102	EP 2000-920012	20000330
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1999-128392P P 19990408
WO 2000-US8682 W 20000330
AB A ***compn*** . is disclosed that comprises a mixt. of polypeptides of opposite charge and an excipient selected from the group consisting of ***arginine*** , lysine, glutamic acid, sodium dodecyl sulfate, .beta.-cyclodextrin, and .beta.-cyclodextrin sulfobutyl ether. An examples is given for a mixt. of ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** and insulin formulated with excipients such as ***arginine*** .
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 25 OF 28 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:708630 CAPLUS
DOCUMENT NUMBER: 131:314170
TITLE: Spray dried formulations of IGF-I
INVENTOR(S): Chang, Judy; Maa, Yuh-fun; Nguyen, Phoung-anh
PATENT ASSIGNEE(S): Genentech, Inc., USA
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9955362	A1	19991104	WO 1999-US9077	19990427
AU 9937641	A1	19991116	AU 1999-37641	19990427

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1998-69684 19980429
WO 1999-US9077 19990427

AB Dry powder ***compns*** . of ***IGF*** - ***I*** , substantially free of excipients and suitable for pulmonary administration consist of ***IGF*** - ***I*** particles of an av. size 2-4 .mu.m. The spray-dried powder is dispersed in a gas stream to form an aerosol. Phys. property and stability studies are described for 11 different formulations and for pure ***IGF*** - ***I*** . Varying amts. of carbohydrates (trehalose or mannitol) and amino acids (histidine and/or L-***arginine***) were used to prep. the inhalation formulations.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 26 OF 28 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:606700 CAPLUS
DOCUMENT NUMBER: 129:311066
TITLE: Resting metabolic rate in healthy adults: relation to growth hormone status and leptin levels
AUTHOR(S): Jorgensen, Jens O. L.; Vahl, Nina; Dall, Rolf; Christiansen, Jens S.
CORPORATE SOURCE: Medical Department M (Endocrinology and Diabetes), Aarhus University Hospital, Aarhus, DK-8000 C, Den.
SOURCE: Metabolism, Clinical and Experimental (1998), 47(9), 1134-1139
CODEN: METAAJ; ISSN: 0026-0495
PUBLISHER: W. B. Saunders Co.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Studies in patients with acromegaly and growth hormone (GH) deficiency, and administration of GH in normal and obese subjects and in patients with GH deficiency, suggest that GH increases resting metabolic rate (RMR) independently of changes in body ***compn*** . To test whether endogenous GH status dets. RMR, the authors studied 38 healthy adults (18 women and 18 men) in two age groups (young, 30 yr; older, 51 yr) with indirect calorimetry, deconvolution anal. of 24-h GH secretion, ***arginine*** stimulation test, ***insulin*** - ***like*** ***growth*** ***factor*** - ***I*** (***IGF*** - ***I***) measurement, lean and fat tissue distribution (computed tomog. [CT] and dual-energy x-ray absorptiometry), assessment of phys. fitness (maximal oxygen consumption [Vo2max]), thyroid status, and serum leptin levels. RMR was higher in men compared with women, whereas RMR per lean body mass (LBM) (kcal .times. 24 h-1 .times. kg-1) was higher in women (30.0 v 33.0 2/30.8). GH secretion was higher in women and in young people. Total-body fat (TBF) was higher in women, whereas LBM and abdominal fat were higher in men. Older people had significantly more TBF and abdominal fat as compared with younger people. Vo2max was higher in younger people. Leptin levels were higher in women and in older people. Thyroid status was narrowly within the normal range in all subjects. RMR was strongly correlated with LBM (r = .90). RMR/LBM correlated strongly with TBF (r = .49) and leptin (r = .56), but not with GH status. By multiple regression anal., sex and TBF were the strongest predictors of RMR/LBM. However, in the young subgroup, GH prodn. rate was a pos. determinant of RMR/LBM. In the male subgroup, leptin was a stronger predictor than TBF of RMR/LBM. Neither age, phys. fitness, nor thyroid status contributed independently to predict RMR/LBM. In conclusion, (1) LBM was the most important determinant of RMR; (2) RMR/LBM was higher in women and depended strongly on TBF; (3) GH status in healthy adults was only weakly assocd. with RMR; and (4) in men, serum leptin levels were a strong pos. determinant of RMR.

L10 ANSWER 27 OF 28 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:467 CAPLUS
DOCUMENT NUMBER: 120:46717
TITLE: Refolding and purification of insulin-like growth factor I
INVENTOR(S): Cox, George N.; Mcdermott, Martin J.; Gleason, Tom M.
PATENT ASSIGNEE(S): Synergen Inc., USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9319084	A1	19930930	WO 1993-US2457	19930319
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, NL, NO, RU, SE				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, NL, AT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
CA 2109820	AA	19930930	CA 1993-2109820	19930319
AU 9338129	A1	19931021	AU 1993-38129	19930319
EP 586667	A1	19940316	EP 1993-907573	19930319
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				

PRIORITY APPLN. INFO.: US 1992-858161 19920324
WO 1993-US2457 19930319

AB Recombinantly-produced ***insulin*** - ***like*** ***growth*** ***factor*** ***I*** (***IGF*** - ***I***) expressed in prokaryotic cells, particularly bacteria, is refolded to render biol. active ***IGF*** - ***I*** by adding a 1st reducing agent, adding a denaturing agent simultaneously with or after the 1st reducing agent, adding an oxidizing agent, and adding a second reducing agent. Correctly refolded ***IGF*** - ***I*** is then isolated from incorrectly refolded ***IGF*** - ***I*** . Recombinant met- ***IGF*** - ***I*** is converted to IFG-I using aminopeptidase. Also included in the invention are pharmaceutical ***compns*** . contg. the correctly refolded ***IGF*** - ***I*** and methods of treating a patient having an IGF assocd. condition. The recombinant human ***IGF*** - ***I*** gene was constructed and expressed in Escherichia coli. Met- ***IGF*** - ***I*** was purified from the cells and then subjected to a 3-step refolding protocol in which oxidized glutathione was incubated with the factor in the presence of ***guanidine*** and DTT at room temp.; the soln. was dild. and cysteine was added to aid in disulfide exchange; and the soln. was incubated at 4.degree. to allow completion of disulfide exchange. Properly refolded and active Met- ***IGF*** - ***I*** was sepd. by reversed-phase HPLC.

L10 ANSWER 28 OF 28 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1997:17331 BIOSIS
DOCUMENT NUMBER: PREV199799316534
TITLE: Body composition in growth hormone deficient adults over the age of 60 years.
AUTHOR(S): Toogood, Andrea A.; Adams, Judith E.; O'Neill, Paul A.; Shalet, Stephen M. (1)
CORPORATE SOURCE: (1) Dep. Endocrinol., Christie Hosp., NHS Trust, Wilmslow Road, Manchester M20 4BX UK
SOURCE: Clinical Endocrinology, (1996) Vol. 45, No. 4, pp. 399-405. ISSN: 0300-0664.
DOCUMENT TYPE: Article
LANGUAGE: English
AB OBJECTIVE: Elderly patients with hypothalamic-pituitary disease exhibit a reduction in GH secretion distinct from the decline in GH secretion related to age. GH deficiency in young adults causes a change in body ***composition*** , with increased fat mass (FM) and reduced fat free mass (FFM), similar to that seen as a result of the normal ageing process. The aim of this study was to determine whether organic GH deficiency in elderly patients may cause changes in body ***composition*** beyond those due to ageing. SUBJECTS: Twenty-one patients (15 male) with documented pituitary disease and 24 controls (17 male) matched for age, height, weight and BMI, all over the age of 60, in whom GH status had been defined by a 24-hour GH profile and an ***arginine*** stimulation

test. MEASUREMENTS: Serum was taken for fasting ***IGF*** - ***I*** and IGFBP-1 estimations. Total and regional FM and FFM were determined using dual-energy X-ray absorptiometry. RESULTS: FM (median (range)) was increased in the patients, 27.76 (19.25-50.24) vs 21.23 (8.81-49.15)kg in the controls (P lt 0.005). FM was significantly increased in the arms, legs and trunk in the patients compared with the controls. The proportion of fat deposited centrally did not differ significantly between the two groups (57.0% (47.665.1) in the patients vs 55.3% (44.1-63.8) in the controls, P = 0.25). There was an inverse relation between total FM and serum IGFBP-1 present in the patients, p = -0.632, P lt 0.005, and in the controls p = -0.467, P lt 0.05, but the relation between total FM and area under the GH profile was significant only in the controls (p=-0.651, P lt 0.001) and not in the patients. FFM (51.19 (26.96-69.18) kg in the patients vs 51.55 (32.35-60.53) kg in the controls, P = 0.99) and serum IGFBP-1 levels did not differ significantly between the two groups. CONCLUSION: Organic growth hormone deficiency causes changes in body ***composition*** beyond the changes associated with the ageing process. These changes differ from those seen in younger GH deficient adults in that they are limited to an increase in FM with no change in FFM. These findings indicate that even in the elderly, in whom GH secretion is normally very low, the additional imposition of GH deficiency due to organic disease has significant biological impact.

=> d his

(FILE 'HOME' ENTERED AT 08:59:33 ON 24 MAY 2002)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 09:00:10 ON 24 MAY 2002

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L1         79728 S (INSULIN-LIKE GROWTH FACTOR-I) OR IGF-I
L2          2175 S L1 (P) ANALOG
L3          2750 S COMPOSITION (P) L1
L4           102 S L3 (P) (ARGININE OR GUANIDINE OR GUANIDIUM)
L5             2 S L4 (P) SOLUBIL?
L6             2 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)
L7            32 DUPLICATE REMOVE L4 (70 DUPLICATES REMOVED)
L8             3 S L7 (P) PH
L9             2 S L8 NOT L6
L10           28 S L7 NOT (L9 OR L5 )
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=> log y

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.96	-4.96

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